

CATALYZED POLYOL GEL BREAKER COMPOSITIONS

Abstract of the Disclosure

It has been discovered that fracturing fluid breaker mechanisms are improved by the inclusion of a catalyzed polyol alone that directly degrades the polysaccharide backbone, and optionally additionally by removing the crosslinking ion, if present. That is, viscosity reduction (breaking) occurs by breaking down the chemical bonds within the backbone directly. The gel does not have to be cross-linked for the method of the invention to be successful, although it may be cross-linked. In one non-limiting embodiment, the polyol has at least two hydroxyl groups on adjacent carbon atoms. In another embodiment, the polyols are simple sugars and sugar alcohols, and may include mannitol, sorbitol, glucose, fructose, galactose, mannose, lactose, maltose, allose, etc. and mixtures thereof. The catalyzing metal ion may employ a metal selected from Groups VIB, VIIB, VIII, IB, and IIB of the Periodic Table (previous IUPAC American Group notation).